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September 3, 1987

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Recreation Survey and Creel Census on Indian Creek, Opening Weekend, 1987

Introduction

A recreation use survey and a creel census were conducted at Indian Creek on the opening weekend of the 1987 trout season, April 25 and 26, by Graduate Student Assistant Jerry Tittel. Only the upper 11 miles of the creek, from Antelope Dam to Flournoy Bridge, were surveyed.

Past surveys have shown that opening weekend has the highest angling use of the year (but often not the best fishing), and this reach receives about 85 percent of the use on the entire creek. Thus, an opening weekend survey can provide a rough index to recreation use and angler success for a particular year.

Methods

Five one-hour counts of recreation use were conducted at regular periods each day according to available daylight hours. Surveys were conducted from vehicle or on foot as necessary. Recreators (and their vehicles) were counted and recorded by activity. Total estimated hours of activity were estimated by totaling the five daily counts and multiplying by factors that accounted for recreation use in the daylight periods not counted.

Recreationists also were interviewed to determine length of stay, activity participation, place of residence, and other visitor information.

The county of residence, length of time spent fishing, number and species of fish caught, and fork length to the nearest 0.5 centimeter (cm) (0.2 inches [in]) for each fish caught were recorded for each angler censused.

Results

Total recreation use for opening weekend was estimated at 980 hours. Counts of recreators indicated that relaxing was the major recreation activity on the weekend with an estimated 400 hours of use. Visitors spent about 330 hours fishing. About 160 hours were devoted to camping activities. Miscellaneous activities totaled about 90 hours.

In addition to the use counts, 41 interviews were conducted representing 105 recreationists. The interviews provided more detailed information on activity participation and additional information on visitor characteristics.

About 75 percent of the visitors interviewed said they would be fishing during their visit. Those who planned to spend time just relaxing amounted to 50 percent. Other activities included walking for pleasure (22 percent), picnicking (19 percent), gold seeking (16 percent), sightseeing (14 percent), and target shooting (10 percent). About 33 percent of all visitors interviewed mentioned miscellaneous other activities. Percentages total more than 100 percent because visitors often participate in more than one activity per visit.

About 54 percent of visitors interviewed camped overnight along the creek. Visitors who were day users only (returning home at night) amounted to 36 percent. Those staying somewhere in the area (other than at the creek or at home) amounted to about 10 percent.

The county with the highest percentage of visitors was Napa (25 percent). Visitors from Plumas County totaled 16 percent and visitors from Lassen County totaled 14 percent. About 10 percent came from Solano County (Table I).

Sixty-nine anglers were censused. They had fished 194.75 hours (about 59 percent of estimated total hours) and caught 46 brown trout (0.24 per hour) and 29 rainbow trout (0.15 per hour), for a total catch per hour of 0.39. Lengths of brown trout ranged from 20 cm (7.9 in) to 46.5 cm (18.3 in), with a mean fork length of 26.5 cm (10.4 in). Rainbow trout ranged in length from 18.5 cm (7.3 in) to 32 cm (12.6 in), with a mean fork length of 25 cm (9.8 in) (Tables II and III).

Discussion

In years when Antelope Reservoir spills and the release is maintained at 20 cfs, angler use and catch are usually above average. In 1987, Antelope Reservoir did not spill and the release was maintained at 10 cfs after March 1, when it became obvious that expected runoff would not fill the reservoir. Thus, streamflow conditions on the opening weekend were similar to the opening weekend in 1981 when estimated fishing use and success were slightly higher (Table IV).

Weather for the 1987 opener was fair with temperatures reaching the mid-70s (Fahrenheit). On Saturday, skies were clear, but Sunday afternoon turned partly cloudy with some thunder showers. Water conditions were good; the creek appeared unusually clear. In contrast, weather on the opening weekend in 1981 was partly cloudy on Saturday and turned to rain and light snow on Sunday. Water conditions were also good in 1981(?).

Angling success was slightly better in 1981 than in 1987 (0.37 brown trout and 0.09 rainbow trout per hour, compared to 0.24 brown trout and 0.15 rainbow trout per hour in 1987). The lower catch per hour for brown trout this year may be related to reduced trout populations caused by the record flood in late February and March 1986.

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Attachments (Tables I-IV)

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TABLE I
 ANGLER ORIGIN SUMMARY
 INDIAN CREEK, PLUMAS COUNTY
 APRIL 25-26, 1987

| <u>County of Residence</u> | <u>Number</u> | <u>Percent</u> |
|----------------------------|---------------|----------------|
| Alameda | 6 | 5.7 |
| Butte | 6 | 5.7 |
| Contra Costa | 4 | 3.8 |
| Lassen | 15 | 14.3 |
| Marin | 2 | 1.9 |
| Monterey | 2 | 1.9 |
| Napa | 26 | 24.8 |
| Placer | 2 | 1.9 |
| Plumas | 17 | 16.2 |
| Solano | 10 | 9.5 |
| Sonoma | 4 | 3.8 |
| Tehama | 2 | 1.9 |
| Yuba | 2 | 1.9 |
| Out of State | <u>7</u> | <u>6.7</u> |
| Total | 105 | 100.0 |

TABLE II
LENGTH FREQUENCY OF RAINBOW TROUT CATCH
INDIAN CREEK, PLUMAS COUNTY
APRIL 25-26, 1987

| | | | | | | | | | | | | | |
|--------------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|
| Length | | | | | | | | | | | | | |
| Centimeters: | 20 | 20.5 | 21 | 21.5 | 22 | 22.5 | 23 | 23.5 | 24 | 24.5 | 25 | 25.5 | 26 |
| Equivalent | | | | | | | | | | | | | |
| Inches: | 7.9 | 8.1 | 8.3 | 8.5 | 8.7 | 8.9 | 9.1 | 9.3 | 9.4 | 9.6 | 9.8 | 10 | 10.2 |
| Number | | | | | | | | | | | | | |
| Caught: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 3 | 0 | 3 | 1 |

| | | | | | | | | | | | | | |
|--------------|------|------|------|----|------|------|------|------|------|------|------|------|---|
| Length | | | | | | | | | | | | | |
| Centimeters: | 26.5 | 27 | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 | 31.5 | 32 | |
| Equivalent | | | | | | | | | | | | | |
| Inches: | 10.4 | 10.6 | 10.8 | 11 | 11.2 | 11.4 | 11.6 | 11.8 | 12 | 12.2 | 12.4 | 12.6 | |
| Number | | | | | | | | | | | | | |
| Caught: | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | * |

*Total number caught: 28 plus one at 18.5 cm (7.3 in)

TABLE III
LENGTH FREQUENCY OF BROWN TROUT CATCH
INDIAN CREEK, PLUMAS COUNTY
APRIL 25-26, 1987

| | | | | | | | | | | | | | |
|--------------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|
| Length | | | | | | | | | | | | | |
| Centimeters: | 20 | 20.5 | 21 | 21.5 | 22 | 22.5 | 23 | 23.5 | 24 | 24.5 | 25 | 25.5 | 26 |
| Equivalent | | | | | | | | | | | | | |
| Inches: | 7.9 | 8.1 | 8.3 | 8.5 | 8.7 | 8.9 | 9.1 | 9.3 | 9.4 | 9.6 | 9.8 | 10 | 10.2 |
| Number | | | | | | | | | | | | | |
| Caught: | 1 | 0 | 1 | 5 | 2 | 1 | 2 | 0 | 4 | 1 | 1 | 2 | 6 |

| | | | | | | | | | | | | | |
|--------------|------|------|------|----|------|------|------|------|------|------|------|------|------|
| Length | | | | | | | | | | | | | |
| Centimeters: | 26.5 | 27 | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 | 31.5 | 32 | 32.5 |
| Equivalent | | | | | | | | | | | | | |
| Inches: | 10.4 | 10.6 | 10.8 | 11 | 11.2 | 11.4 | 11.6 | 11.8 | 12 | 12.2 | 12.4 | 12.6 | 12.8 |
| Number | | | | | | | | | | | | | |
| Caught: | 2 | 3 | 1 | 0 | 1 | 3 | 1 | 0 | 1 | 2 | 1 | 1 | 1 * |

*Total number caught: 43 plus one at 36 cm (14.2 in) and one at 46.5 cm (18.3 in)

TABLE IV

COMPARISON OF FISHING USE, STREAMFLOW CONDITIONS,
AND RECREATION HOURS - 1978-1982, 1986, AND 1987

| <u>Year</u> | <u>Streamflow Conditions</u> | <u>Opening Weekend</u> | | | <u>Annual</u> | | | <u>Annual Hours of Recreation</u> |
|-------------|----------------------------------|-------------------------|-------------------|-------------------|-------------------------|-------------------|-------------------|---|
| | | <u>Hours Fished</u> | <u>BN CPH</u> | <u>RT CPH</u> | <u>Hours Fished</u> | <u>BN CPH</u> | <u>RT CPH</u> | |
| 1978 | Spill 46 days and 20 cfs | 707 | .47 | .15 | 7,000 | .50 | .20 | 18,600 |
| 1979 | Spill 20 days and 10 cfs | 444 | .16 | .15 | 3,400 | .39 | .12 | 18,000 |
| 1980 | Spill 177 days and 20 cfs | 1,026 | .35 | .34 | 8,800 | .34 | .32 | 22,200 |
| 1981 | No spill and 10 cfs | 397 | .37 | .09 | 3,600 | .39 | .05 | 13,500 |
| 1982 | Spill 237 days and 20 cfs | 949 | .28 | .42 | 13,500 | .32 | .35 | 35,600 |
| 1986 | Spill 123 days and 20 cfs | 1,206 | .38 | .62 | 7,600 | .35 | .33 | 27,000 |
| 1987 | No spill and 10 cfs | 332 | .24 | .15 | - | - | - | - |

Key: BN = brown trout
RT = rainbow trout
CPH = catch per hour